'So in everything, do to others what you would have them do to you.'
Matthew 7:12

Science Policy

Our School Vision

"The important thing is to never stop questioning."- Albert Einstein

At St Mark's Primary School, we aim to encourage each child to achieve their full potential and develop a life-long love of learning within an environment that is safe, encouraging and that ensures each individual feel valued and special. We promote the growth of Christian values so that all pupils can learn to show tolerance, self-discipline, compassion and respect for themselves and for others.

Inclusion Statement

In school we aim to meet the needs of all our children by differentiation in our science planning and in providing a variety of approaches and tasks appropriate to ability levels. This involves providing opportunities for SEND children to complete their own projects, with support, to develop speech and language skills, as well as scientific skills and knowledge. This will enable children with learning and/or physical difficulties to take an active part in scientific learning and practical activities and investigations and to achieve the goals they have been set. Some children will require closer supervision and more adult support to allow them to progress whilst more able children will be extended through differentiated activities. By being given enhancing and enriching activities, more able children will be able to progress to a higher level of knowledge and understanding appropriate to their abilities. Teachers will use the school's inclusion planning key to ensure that a range of strategies are used which include and motivate all learners, ensuring that optimum progress is made throughout each part of the lesson.

Curriculum Statement

Intent

The 2014 national curriculum for science aims to ensure that all pupils:

- develop **scientific knowledge and conceptual understanding** through the specific disciplines of biology, chemistry and physics,
- develop understanding of the **nature, processes and methods of science** through different types of science enquiries that help them to answer scientific questions about the world around them,
- are equipped with the **scientific skills** required to understand the **uses and implications** of science, today and for the future. We understand that it is important

for lessons to have a skills-based focus, and that the knowledge can be taught through this approach at St Marks, we encourage children to be inquisitive throughout their time at school and beyond. The science curriculum fosters healthy curiosity in children about our universe and promotes respect for the living and then non-living. We believe science encompasses the acquisition of knowledge, concepts, skills and positive attitudes. Throughout the programmes of study, the children will acquire and develop the key knowledge that has been identified within each unit and across each year group, as well as the application of scientific skills. We ensure that the **Working Scientifically Skills** are built-on and developed throughout children's time at the school so that they can apply their knowledge of science when using equipment, conducting experiments, building arguments and explaining concepts confidently and continue to ask questions and be curious about their surroundings.

Implementation

All staff at St Marks work hard to promote positive attitudes towards scientific enquiry and learning within their classrooms and around school by reinforcing an expectation that all pupils are capable of achieving high standards in science. Our whole school approach to the teaching and learning of science involves the following;

- Science is taught in planned and arranged topic blocks by the class teacher, to have a project-based approach. This is a strategy employed to enable the achievement of a greater depth of knowledge and for greater consistency.
- Through our planning, we involve problem solving opportunities that allow children to apply their knowledge, and find out answers for themselves. Children are encouraged to ask their own questions and be given opportunities to use their scientific skills and research to discover the answers. This curiosity is celebrated within the classroom. Planning involves teachers creating engaging lessons, often involving high-quality resources to aid understanding of conceptual knowledge. Teachers use precise questioning in class to test conceptual knowledge and skills, and assess pupils regularly to identify those children with gaps in learning, so that all pupils keep up.
- We build upon the knowledge and skill development of the previous years. As the children's knowledge and understanding increases, and they become more proficient in selecting, using scientific equipment, collating and interpreting results, they become increasingly confident in their growing ability to come to conclusions based on real evidence.
- Working Scientifically skills are embedded into lessons to ensure these skills are being developed throughout the children's school career and new vocabulary and challenging concepts are introduced through direct teaching. This is developed through the years, in-keeping with the topics.
- Teachers demonstrate how to use scientific equipment, and the various Working Scientifically skills in order to embed scientific understanding. Teachers find

opportunities to develop children's understanding of their surroundings by accessing outdoor learning when appropriate and workshops with experts.

- Children are offered extra-curricular opportunities through access to afterschool clubs, visits, trips and visitors which help to complement and broaden the curriculum. These are purposeful and link with the knowledge being taught across the school.
- Curriculum days are also organised, where children are able to fully immerse themselves within the subject

Impact

The successful approach at St Marks results in a fun, engaging, high-quality science education, that provides children with the foundations and knowledge for understanding the world. Our engagement with the local environment ensures that children learn through varied and first-hand experiences of the world around them. There is a clear progression of skills and knowledge acquisition which is evident in the children's work and teachers' high expectations in our school. Coverage is ensured through the clear mapping of the programme of study learning objectives across the school which enables the children to develop a broad and secure understanding. As pupils progress through the school, they become increasingly independent and are encouraged to select their own tools, equipment and materials as well as completing pupil lead investigations and deciding upon their own variables to measure and record. Teachers' assessment of children is ongoing both within lessons and at the end of units, which paired with effective verbal and written feedback pushes children to achieve their potential and make good progress overall. These judgements are moderated internally and shared during curriculum meetings in order to sustain the high expectations and standards of the school. Children at St Marks passionately engage with and enjoy learning within science and this is evident in motivated, independent learners with sound scientific knowledge.

Assessment for Learning

Children's progress is continually monitored throughout their time at St Marks Primary School and is used to inform future teaching and learning. By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study as set out in the National Curriculum. These are set out as statutory requirements. We also draw on the non-statutory requirements to extend our children and provide an appropriate level of challenge.

Children receive effective feedback through teacher assessment, both orally and through written feedback in line with the success criteria. Children are guided towards achievement of the main objective through the use of process based 'success criteria', provided by and explained by the teacher.

Assessment for learning is continuous throughout the planning, teaching and learning cycle. However, children are more formally assessed half termly in KS1 and KS2 using a variety of methods:

- Observing children at work, individually, in pairs, in a group, and in classes.
- Questioning, talking and listening to children.
- Considering work/materials / investigations produced by children together with discussion about this with them.
- Practical Skills are assessed and highlighted in relation to the Lancashire KLIPS.
- End of unit assessment tests created by teachers based on the depth and content of their teaching.

In EYFS, we assess the children's Understanding of the World according to the early learning goals.

Differentiation (including more able)

At St Marks Primary School, we aim to provide the best teaching for all children in order for them to reach their maximum potential in all areas of the curriculum according to their individual abilities. We identify pupils or groups of pupils that may need additional support and take steps to improve their attainment or deepen their learning. Staff also use precision teaching in order to focus on particular groups of children and timely intervention strategies for identified children to support marking and feedback within lessons. More able children are identified and suitable learning challenges provided in line with greater depth challenges to assist them to achieve and gain a deeper understanding and mastery of their learning. We identify that a more able child is any child who is attaining beyond their 'age-related expectations', which means they are achieving at a higher standard within their own year group expectations. Higher attaining pupils will be predominantly supported by the class teachers and given activities that allow them to gain further mastery of the learning by applying it in different ways.

Inclusion (e.g. EAL/SEN/PPG/)

In school we aim to meet the needs of all our children by differentiation in our science planning and in providing a variety of approaches and tasks appropriate to ability levels. This involves providing opportunities for SEND children to complete their own projects, with support, to develop speech and language skills, as well as scientific skills and knowledge. This will enable children with learning and/or physical difficulties to take an active part in scientific learning and practical activities and investigations and to achieve the goals they have been set. We acknowledge that some children will require closer supervision and more adult support to allow them to progress.

Parental Support

Parental input is highly valued and parents are regularly invited and welcomed into school in order for their children to show them what they have been learning. This may come in the form of a Workshare assembly or our termly invitations where the children are able to sit down with parents/carers to show them their books. Children may receive science homework based on their current topic of study.

To be reviewed September 2025